

HOUSE.....No. 9.

Commonwealth of Massachusetts.

To the Honorable GEORGE ASHMUN,

Speaker of the House of Representatives :

SIR :

An order of the Honorable House of Representatives of the 13th instant, is as follows, viz. : “ *Ordered*, that the Secretary of the Commonwealth be requested to lay before the House the following information in relation to the Board of Education, the Board of Bank Commissioners, the Agricultural, Trigonometrical, Geological, Astronomical, Mineralogical, Botanical and Zoological Commissions and Surveys, viz. : a detailed account of the warrants already drawn on account of each of said boards, commissions and surveys, including the name of each individual receiving the same, together with such sums as may be due and not paid : also a detailed account of all printing bills occasioned by the above named commissions and boards : also the present condition of these commissions : what are finished, and remain unfinished, and the probable cost to the Commonwealth of finishing what remains unfinished : and that he be requested to obtain in writing, from those gentlemen who have undertaken the said surveys, a statement of the present condition of their labors, and the probable time and expense, which will be required to conclude them, including all bills of printing, binding, delineating, engraving, that may be required for their perfect completion.”

Agreeably to the directions of the first part of this order, I herewith submit in detail the amount of the warrants which

have severally been drawn, since the commencement of the surveys in 1830. In answer to that part of the order, which refers to the present condition, &c. of each survey, I would further state, that the astronomical survey has been finished, and the amount paid therefor will be found in the schedule of the warrants annexed; the result of this survey is in the hands of the individual who has the charge of the trigonometrical survey, and of preparing a map of the State. The geological and mineralogical survey has also been finished, and a report thereof is now in the course of being printed. It will not probably be ready for delivery until towards the close of the present year. That part of the survey authorized by resolve of the 12th of April, 1837, which relates to the botany and zoology of the State, was entrusted to several scientific gentlemen, who were to report severally upon the various subjects which were considered within the meaning of the resolve. Portions of the survey have already been finished, and the results thereof have been printed, viz. : Reports on the Quadrupeds, Birds, Fishes, Reptiles, and Herbaceous Plants of the State. For further particulars in regard to this survey, as well as the surveys concerning agriculture, trigonometry and geology, I beg leave to refer to the letters of the several gentlemen having them in charge; which letters have been obtained agreeably to the directions of the order. The Boards of Education and Bank Commissioners being of a permanent character, were not called upon to furnish similar letters.

The amount of warrants drawn for printing, is given in the schedule, as far as the documents in this department furnish the means of distinguishing what has been done under direction of the several boards, from the general bill for printing the usual legislative documents.

Very respectfully,

Your obedient servant,

JOHN P. BIGELOW,

Secretary of the Commonwealth.

AGRICULTURAL SURVEY.

Warrants drawn at stated periods in favor of Henry Colman, for his services and expenses as Agricultural Commissioner, from May 25th, 1837, to December 31, 1839, 2 years, 7 months, 6 days, at \$1,800 per annum, . . .		\$4,680 00
1 year's salary to December 31st, 1840, . . .		1,800 00
Warrant in favor of H. Colman, for sundry printing paid by him,		75 92
Warrants in favor of Dutton and Wentworth, for printing in		
1838,	\$570 42	
1839,	680 05	
1840,	667 14	
	<hr/>	1,917 61
		<hr/>
		\$8,473 53

ASTRONOMICAL SURVEY.

Warrants drawn in favor of Robert T. Paine, Astronomical Surveyor, for services, ex- penses, &c., in the years		
1830,	\$1,500 00	
1831,	1,000 00	
1833,	1,432 25	
1834,	1,161 50	
1835,	500 00	
1836,	559 50	
1837,	200 00	
1838,	2,540 50	
	<hr/>	\$8,893 75

TRIGONOMETRICAL SURVEY.

Warrants drawn in favor of James Stevens,
Trigonometrical Surveyor, for salary, ex-
penses, &c., for the years

1831,	\$3,726 63
1832,	6,729 23
1833,	7,526 76
1834,	847 23

\$18,829 85

Warrants drawn in favor of Simeon Borden,
Trigonometrical Surveyor, for salary, ex-
penses, &c., for the years

1834,	\$3,000 00
1835,	2,642 17
1836,	4,420 92
1837,	2,610 17
1838,	2,780 97
1839,	7,778 15
1840,	6,084 93

\$29,317 31

Warrants drawn in favor of sundry persons on
account of damages, &c., done by running
the Base line for the above survey, \$405 55

Warrant drawn for expense of the
Committee, in examining and au-
diting James Stevens' Account in

1834,	44 00
-----------------	-------

\$449 55

\$48,596 71

GEOLOGICAL SURVEY.

Warrants drawn in favor of Edward Hitchcock, Geological Surveyor, for services and expenses on said Survey for the year 1830,		\$400 00
" " 1831,		560 39
" " 1832,		384 54
" " 1833,		640 10
		—————\$1,985 03
Printing, publishing, &c., the 1st and 2d Editions of the Work on Geology, by Edward Hitchcock, viz :		
<i>1st Edition.</i>		
Warrants drawn in favor of Edward Hitchcock,		\$675 71
Warrants drawn in favor of J. L. and C. Adams, for printing, &c.		3,234 97
		—————\$3,910 68
<i>2d Edition.</i>		
Warrants drawn in favor of Edward Hitchcock,		\$226 00
Warrants drawn in favor of J. L. and C. Adams, for printing,		1,300
		—————\$1,526
Warrant drawn in favor of E. D. Bangs, to pay transportation of Minerals,		\$9 96
Warrant drawn in favor of do. for cases for the same,		200 00
		—————\$209 96
		—————\$7,631 67

GEOLOGICAL AND MINERALOGICAL SURVEY.

Re-examination of &c.

Warrants drawn in favor of Edward Hitchcock, Geological Surveyor, for services, expenses, &c., in the years

1837,	.	.	.	.	.	.	\$830 09
1838,	.	.	.	.	.	.	1,938 91
1839,	.	.	.	.	.	.	1,324 05
1840,	.	.	.	.	.	.	307 45
1841,	.	.	.	.	.	.	85 26
							<hr/> \$4,485 76
Warrant drawn in favor of J. L. and C. Adams for							2,384 00
							<hr/> \$6,869 76

BOTANICAL AND ZOOLOGICAL SURVEYS.

Warrants drawn in favor of the following persons, viz :

1838,	George B. Emerson,	.	.	\$175 00
"	Chester Dewey,	.	.	175 00
"	W. B. O. Peabody,	.	.	175 00
1839,	do.	.	.	175 00
1838,	Ebenezer Emmons,	.	.	175 00
"	Thaddeus W. Harris,	.	.	175 00
"	D. H. Storer,	.	.	175 00
1839,	do.	.	.	175 00
1838,	A. A. Gould,	.	.	175 00
1839,	do.	.	.	175 00
1840,	Chester Dewey,	.	.	175 00
"	Ebenezer Emmons,	.	.	175 00
				<hr/> \$2,100

Amount brought over,	\$2,100
1841, Thaddeus W. Harris,	175
“ Warrant in favor of Folsom, Wells and Thurston, for printing,	793 34
“ Printing Reports of Fishes, Birds and Reptiles,	1,045 11
	<hr/>
	\$4,113 45

1838.								
April 19,	Warrant drawn in favor of Emerson Davis, member,				-	-		\$49 00
July 2,	do	do	do	do	-	-	\$16 00	
" 2,	do	do	do	Thomas Robbins, do	-	-	36	
" 2,	do	do	do	Charles Hudson, do	-	-	15	
" 2,	do	do	do	Robert Rantoul, Jr. do	-	-	50	
1839.								117
Jan. 10,	do	do	do	Emerson Davis, do	-	-	37 75	
" 10,	do	do	do	Edmund Dwight, do	-	-	10 81	
" 10,	do	do	do	Charles Hudson, do	-	-	51 80	
" 10,	do	do	do	George Putnam, do	-	-	8	
" 10,	do	do	do	Robert Rantoul, Jr. do	-	-	54	
" 10,	do	do	do	Thomas Robbins, do	-	-	30	
								192 36
July 2,	do	do	do	George N. Briggs, do	-	-	31	
" 2,	do	do	do	Charles Hudson, do	-	-	23 40	
" 2,	do	do	do	Robert Rantoul, Jr. do	-	-	25 25	
" 2,	do	do	do	Thomas Robbins, do	-	-	20	
" 2,	do	do	do	Jared Sparks, do	-	-	22 50	
1840.								122 15
Jan. 9,	do	do	do	George N. Briggs, do	-	-	12 63	
" 9,	do	do	do	Charles Hudson, do	-	-	57 41	
" 9,	do	do	do	Robert Rantoul, Jr. do	-	-	11 80	
								81 34

1841.	Jan. 1,	Warrant drawn in favor of Charles Hudson, member,	-	-	\$38 64	
	" 12,	do do do Thomas Robbins do	-	-	20	
1839.	Jan. 10,	do do do Horace Mann, expenses, -	-	-	52	\$58 64
1840.	Jan. 9,	do do do do do do -	-	-	63 43	
1837.		do do do do do Secretary of the Board, from July				115 43
		1st to April 21st, 1838, 9 months, 21 days, at \$1,000 per annum,			808 33	
		do from April 21st, 1838, to December 31st, 1840, 2 years, 8 months,				
		9 days, at \$1,500 per annum, - - -			4,037 50	
		Expense of Printing for the Board of Education, from the time of organiza-				4,845 83
		tion to January, 1841, - - - - -				*4,126 49
						<u>\$9,708 24</u>

* This includes the Annual School Abstracts. Similar Abstracts were however annually printed and distributed agreeably to law, previous to the establishment of the Board of Education.

Warrants drawn for Services and Expenses in favor of the following persons as Bank Commissioners.

Date of Warrants.	NAMES.				Amount.	Amount for the year 1838.	Amount for the year 1839.	Amount for the year 1840.
1838.								
July 2,	Julius Rockwell,	-	-	\$184 30				
Sept. 27,	do do	-	-	382 50				
1839.								
Jan. 1,	do do	-	-	389				
March 22,	do do	-	-	462	- -	\$955 80		
Sept. 27,	do do	-	-	235 50				
1840.								
Feb. 28,	do do	-	-	390	- -	- -	\$697 50	
April 16,	do do	-	-	398 50				
Sept. 30,	do do	-	-	331 92				
1841.								
Jan. 1,	do do	-	-	299 50				
					\$3,073 22	- -	- -	\$1,419 92
1838.								
July 7,	Waldo Flint,	-	-	264 90				
Nov. 26,	do do	-	-	334 50				
1839.								
Jan. 1,	do do	-	-	519				
April 3,	do do	-	-	22 40	- -	1,118 40		
					1,140 80	- -	22 40	

1838.									
Sept. 1,	Jonathan Shove,	-	-	\$311 20					
1839.									
Jan. 1,	do do	-	-	970 70					
March 27,	do do	-	-	506	-	-	\$1,281 90		
Nov. 25,	do do	-	-	770 60					
1840.									
Feb. 28,	do do	-	-	513 80	-	-	-	-	\$1,276 60
April 16,	do do	-	-	778					
Oct. 1,	do do	-	-	718					
					\$4,568 30	-	-	-	\$2,009 80
1839.									
March 26,	Warren Lovering,	-	-	352 50					
July 2,	do do	-	-	309 50					
Nov. 25,	do do	-	-	341 50	-	-	-	-	1,003 50
1840.									
Feb. 29,	do do	-	-	221 60					
April 16,	do do	-	-	600					
Dec. 3,	do do	-	-	504 10					
					2,329 20	-	-	-	1,325 70
					\$11,111 52				

RECAPITULATION.

Agricultural,	\$8,473 53
Astronomical,	8,893 75
Trigonometrical,	48,596 71
Geological, 1st and 2d editions,	7,631 67
“ and Mineralogical re-examination,	6,869 76
Botanical and Zoological,	4,113 45
Board of Bank Commissioners,	11,111 52
Board of Education,	9,708 24
	<hr/>
	\$105,398 63

The above are the amounts for which warrants have been drawn, under the several heads. The Astronomical and Geological Surveys have been finished. The Secretary estimates the amount for finishing the *printing* of the Geological Survey at \$2,500. The amount for finishing the Botanical, &c. Surveys, and printing the same, \$1,800. The Boards of Education and Bank Commissioners being permanent in their character, similar estimates cannot be made concerning them. The Secretary has no means of estimating the remaining expenses of the Trigonometrical and Agricultural Surveys, other than what may be found in the accompanying letters, to which reference is respectfully made.

Secretary's Office, }
 Jan'y 19, 1841. }

[Letter 1.]

Boston, January 15, 1841.

To the Secretary of State :

SIR,—I have had the honor to lay before the Governor, three days since, a particular statement of the condition of the Agricultural survey, which I suppose will be submitted to the Legislature ; and do not therefore deem it necessary to recapitulate what I have there stated at large.

I had confident expectations that the survey would have been completed this present winter ; and this would have been the fact but for my sickness. After the publication of my third report, with the approbation of the Executive, I went to the south and west, for an absence of three weeks or a month, for the purpose of examining the application of marls and lime in New Jersey, Pennsylvania, and Virginia, and looking likewise at the extensive silk establishments in those parts of the country, especially in Economy, on the Ohio, in Pennsylvania ; and likewise for other incidental objects connected with agriculture. The objects of my journey were exclusively connected with my survey. It will be recollected that the terms of the Resolve authorising the survey, require of the Commissioner to point out the means of improvement ; and in order to do this to advantage, it must be in the highest degree useful to know what has been done. Unfortunately, on reaching the Ohio I was arrested by sickness, and remained severely and dangerously sick for several weeks. Being exceedingly anxious to return to my duties, I set out for home before my recovery was perfected, and was again confined on the road a month. After my return, though I attended all the cattle shows which I could attend, and prosecuted my inquiries with as much diligence as I was able, yet the extraordinary state of the weather in October and November, added to imperfectly

recovered health, prevented my extending my examinations as I desired. No one can regret this more than myself.

I have already submitted four reports to the government, one not being numbered. I have now in forward preparation a report on Franklin, Middlesex, Norfolk, Plymouth, Barnstable, Dukes County and Nantucket, which will be submitted to the Executive with all the dispatch I am able to make. The remaining counties have all been partially explored, but many inquiries are still to be made. The whole, in my opinion, may be completed, and the final reports presented during the next session of the Legislature, but not sooner than that, if executed in a manner honorable and just to the State, and satisfactory to myself. My health is now nearly restored, and I shall spare no pains to meet the wishes of the government. I know of no expense to the State likely to accrue beyond the salary of the Commissioner and the publication of the reports. The salary of the Commissioner has included all expenses excepting printing; and the actual travelling expenses, expenses paid for assistance, postages, and other expenses necessarily incidental to the survey, have never fallen short of twelve hundred dollars per year. The whole expense of the survey to the State, every thing included, if completed within the time contemplated, if levied as a tax upon the Commonwealth, would scarcely exceed one cent per head. Of the utility of the survey to the agricultural interest, and the advantages already accruing or had from it, whatever may be my own convictions, I shall submit to the candid and intelligent estimation of others.

Respectfully,

Your obedient servant,

HENRY COLMAN.

[Letter 2.]

BOSTON, January 15, 1841.

To the Secretary of State :

SIR,—By a Resolve of the House of Representatives, approved April 12, 1837, His Excellency the Governor was authorized to appoint some suitable person or persons to complete the geological, and to make a thorough botanical and zoological survey of this State. By commissions bearing date June 10, 1837, seven persons were appointed to take charge of the latter survey, who were authorized to apportion among themselves, by mutual agreement, the several portions of the work.

Rev. W. B. O. Peabody, of Springfield, made, upon the Birds in the Commonwealth, a partial Report in 1838, and a final Report in August, 1839.

Dr. D. H. Storer made, in 1838, a partial Report upon the Fishes and Reptiles, and in 1839 his final Report on the same, which, together with Mr. Peabody's Report, forms a volume of 426 pages, with several plates of new and undescribed fishes.

Dr. Ebenezer Emmons, at that time Professor of Natural History, &c., in Williams College, and now a professor in the Medical College, in Albany, and one of the Board of Geologists for the State of New York, made, upon the Quadrupeds of Massachusetts, a partial Report, in April, 1838, and his final Report in 1840, both of which have been printed.

Rev. Chester Dewey, then and now professor of Botany, &c., in the Berkshire Medical Institution, made a Report on the Herbaceous Plants, in 1840. This and Dr. Emmons' Report, form a volume of 363 pages.

Dr. A. A. Gould, of Boston, made a partial Report on the animals of the lower orders, in 1838, and his final Report on the same in 1840. This is now issuing from the press. It is accompanied by beautifully executed figures of some of the

animals, which, agreeably to instructions from His Excellency Gov. Morton, have been ordered to be engraved.

Dr. T. W. Harris, the well-known Entomologist, librarian of Harvard University, made, in 1838, a partial Report, and, in 1840, his final Report on the Insects injurious to vegetation in the Commonwealth. This is now in the press, and, together with Dr. Gould's Report, will form a volume of four or five hundred pages.

The three volumes now nearly completed, will contain a more full and complete enumeration and description of the plants and animals of Massachusetts than have ever before been given.

For the labor of preparing these Reports, \$2,100 have been paid. When completed, the labors of the seven Commissioners on the Botanical and Zoological Survey will have cost the Commonwealth \$2,400.

Of the time and labor given to this work by those gentlemen of the Commission who live at a distance, I cannot speak from my own knowledge. Their Reports must speak for themselves. Of those who reside in this immediate vicinity, with whom I am well acquainted, I can without hesitation say, that the compensation received will bear no proportion, even at the lowest rates of labor in Europe, to the time required to detect, identify, study and describe the objects embraced in their Reports.

I hope to be able to make my Report on the portion assigned me,—the Forest Trees and other woody Plants,—so that, if it shall be thought best to print it, it may appear before the next session of the Legislature.

It may occupy three hundred pages, and, according to the instructions I may receive, may be or not accompanied by plates.

Respectfully,

Your obedient servant,

GEO. B. EMERSON.

*Chairman of the
Commissioners for the Botanical and Zoological Survey.*

[Letter 3.]

BOSTON, January 15, 1841.

To the Secretary of State :

SIR,—Agreeable to your request, I proceed to answer the inquiries of the House of Representatives, as set forth in an order offered by Mr. Tarbell on the 13th instant, so far as my knowledge and experience of its various subjects will permit.

The order contains the following interrogatories, which I have thus arranged for purposes of convenience, viz :

1st interrogatory—"What warrants have been drawn by each?" (meaning commissioner or surveyor.)

2d interrogatory—"What moneys due and not paid?"

3d interrogatory—"What had been paid for printing, &c., by each?" (meaning commissioner or surveyor.)

4th interrogatory—"What time and expense now necessary to complete their respective objects, with all the printing, engraving, binding, &c., that would be required?"

In answer to the first interrogatory, I would only say, that as you are doubtless in possession of the necessary evidence, I presume you will not desire an answer from me.

In answer to the second interrogatory, I have to state, that, as I have not paid all the bills charged against the State map, I cannot give their exact sum; but, from the best evidence which I possess at this time, I have estimated all unpaid demands against the State, in my department, on the first day of January, to amount to about seventeen hundred and sixty dollars.

To the third interrogatory, I would answer, that I have not had any printing done, and, of course, have not paid any thing.

The fourth interrogatory I can only answer in a partial or rather incomplete manner. First, as it respects the "time and expense now necessary to complete their several objects," I

would state, that we expect to complete, by the first of March, or about that time, the draught of the map in outline, that is, a drawing of all roads, streams, boundaries, coasts, islands, &c., with a considerable portion of the topography delineated thereon; provided we obtain in season corrected maps of the towns of Falmouth and Truro. The maps of said towns, which were returned to your department, having been found too erroneous to be used in delineating the State map, copies of them have been sent to their respective towns for correction. I am informed that the towns are taking measures to have corrected plans prepared. It was expected that the field sketches of topography would have been completed at this time; but the month of November proving so very stormy that but very little field work could be done, which prevented Mr. Boutelle from completing the field sketching in the eastern section of the State, which he would have performed, provided he had been favored with a common share of fair weather during the latter portion of the fall, and the commencement of the winter.

Mr. Nathan Hale Jr. was employed to sketch the topography in the western portion of the State, and was furnished with a horse and buggy for that purpose, by a friend of his, whose only charge for this accommodation was that of feeding the horse, and keeping the buggy in repair. Before, however, he had completed the work, his friend having business for his horse and buggy, it was returned to him. Mr. Hale not desiring to continue the field sketching longer, and, as it would require considerable delay and some expense to fit up another carriage in a suitable manner to perform the work properly, it was deemed better to let Mr. Boutelle complete the work early in the spring. This sketching will probably require two or three weeks of fair weather to complete it, and can be performed as soon as the weather becomes suitable for that kind of work.

When the mechanical part of this work shall have been completed, it will be necessary to draw out a full and complete report of the whole work, interesting extracts from which may

be engraved upon that portion of the sheet, upon which the map is printed, which would be occupied by the states of Rhode Island and Connecticut, provided the maps of those states were printed in connexion with the map of Massachusetts. Whether it will be thought necessary to have the report printed as an accompaniment of the map, I leave to the judgment of the Legislature. Such a book, doubtless, would be very desirable.

The expenses of completing the whole work according to the above description, commencing the estimate from the first of January, will probably be about two thousand dollars. As it respects the expense of engraving, I possess no means of estimating it, but would refer you to the committee appointed last year to inquire into the condition of the map. That committee corresponded with engravers of New York and Philadelphia concerning the expense of engraving the map; of the result of their correspondence, I am uninformed.

I hope, Sir, that the above communication will be found sufficiently particular in its details to answer the purposes of the present call of the House of Representatives. Indeed, I do not know that I could add much to the information respecting the expenses of my department, which I presume is the main object of the present inquiry. I contemplate communicating to His Excellency the Governor, in a few days, a more particular account of the work in a mathematical, or rather a scientific point of view. This communication I would like to have made previous to the present time; but have delayed it for the purpose of advancing a portion of the calculations, upon which we are at present engaged.

Respectfully,

Your obedient servant,

SIMEON BORDEN.

[Letter 4.]

AMHERST, JANUARY 17TH, 1841.

To the Secretary of the Commonwealth :

SIR,—I have labored to the extent of my ability for more than a year, to get the Geological Report into the hands of the Legislature before the close of the present session. But in consequence of a recent delay about drawings, I greatly fear that after all I shall be disappointed, especially if there should be a short session. About 500 pages are now printed, and two presses are at work upon it. Both the publishers are now at Boston to urge on the execution of the plates, and all will be done in our power to bring it out before the close of the session. The work will form a quarto volume of 800 pages with 55 lithographic plates, and about 200 wood cuts. The printing of the work thus far has been very satisfactory, and I trust the Government will not find fault with the execution. But so large a work requires a great deal of time to write and publish it.

I have about 1200 specimens nearly ready to be added to the 1600 now in the State collection. Would it be well to recommend to the Legislature to appoint a committee to consider the expediency of placing the whole collection in the State House? You probably recollect that the subject came before them last winter rather informally, and was passed over I believe without any action.

Respectfully yours,

EDWARD HITCHCOCK.